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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,409	03/11/2004	Qingguo Wu	NOVLP098/002907	7038
22434	7590	06/15/2006	EXAMINER	
BEYER WEAVER & THOMAS LLP			CHEN, BRET P	
P.O. BOX 70250			ART UNIT	
OAKLAND, CA 94612-0250			PAPER NUMBER	

1762

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/800,409

Applicant(s)

WU ET AL.

Examiner

B. Chen

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27,34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27,34 and 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-27 and 34-35 are pending in this application. Amended claims 1, 23 and newly added claims 34-35 are noted.

The amendment dated 3/23/06 has been entered and carefully considered. The examiner appreciates the amendments to the specification and claims. In view of said amendment, the objection to the specification and the art rejection over Xia has been withdrawn.

Claim Rejections - 35 USC § 112

Claims 34-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 34, the terms “bis(alkylsilyl)ethylenes” and “siloxanes having pendant hydrocarbon groups with a carbon-carbon triple bond or double bond” are deemed new matter as there is no support for same in the original specification as filed.

In claim 35, the term “said precursor containing an akenyl or akynyl group” is deemed new matter as there is no support for same in the original specification as filed.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xia et al. (6,258,735). Xia discloses a method of depositing a carbon doped silicon oxide film having a low dielectric constant on a substrate (col.2 lines 20-22) in which a precursor gas and an oxidizer are introduced in the presence of a plasma inside a chamber (col.2 lines 28-35). The dielectric constant is less than about 3.0 (col.3 lines 56-57) and the precursor can be organosilicon compounds containing carbon and suitable organo groups (col.2 lines 62-67). A prodigious list of compounds are recited which include carbon-carbon double bonds (col.3 lines 1-46). The oxygen containing group can nitrous oxide, carbon monoxide, carbon dioxide and water (col.3 lines 47-50). The claimed oxide can be used in the fabrication of integrated circuits (col.1 lines 8-10). However, the reference fails to specifically teach a dielectric constant of at most about 2.7.

It is noted that Xia teaches a dielectric constant is less than 3.0 as noted above. It is noted that the reference teaches that it is desirable to have a low dielectric constant and that it should be less than about 3.0. It would have been obvious to have a dielectric constant less than 2.7 because Xia teaches the desirability of a low dielectric constant and that the dielectric constant of less than about 3.0 is suggestive of the claimed dielectric constant.

In addition, it is noted that the reference fails to teach the specific precursor. It is noted that Xia discloses a variety of organosilicon compounds and that many compounds are interchangeable. It would have been obvious to utilize the claimed compounds with the expectation of obtaining similar results.

Art Unit: 1762

Claims 1-27 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rocha-Alvarez et al. (6,797,643) for the reasons listed in the previous office action.

In newly added claims 34-35, the applicant requires a specific precursor which has a carbon-carbon triple bond or a carbon-carbon double bond. This issue was dealt with in the previous office action.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-33 of copending Application No. 10/789103 for the reasons listed in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10/820525 for the reasons listed in the previous office action.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed 3/23/06 have been fully considered but they are not persuasive.

Applicant first argues that Roche-Alvarez does not teach or suggest a precursor having a carbon-carbon triple bond (p.9 second full paragraph).

The examiner disagrees. It is noted that Roche-Alvarez specifically teaches that a method of depositing a carbon-doped silicon oxide film on a substrate and discloses using a gas mixture includes one or more cyclic organosilicon compounds, one or more aliphatic compounds, wherein the aliphatic compounds may also include aliphatic hydrocarbon compounds having between one and about twenty adjacent carbon atoms and can be bonded using triple bonds (claim 16, col.2 lines 5-19, and col.3 lines 5-67). One skilled in the art would realize that precursors having carbon-carbon triple bonds could be utilized in the process of Roche-Alvarez with the expectation of obtaining similar results.

Applicant also argues that Roche-Alvarez fails to teach the carbon-carbon triple bonds are incorporate into the film and that the reactive conditions may lead to the consumption of reactive C-C bonds during deposition(p.9 lines fourth full paragraph).

The examiner agrees in part. While the reference remains silent as to the bonding of the deposited film, there is nothing to suggest that a carbon-carbon triple bond would be included. The applicant's suggestion that there is no preservation of the bonds appears to be mere speculation in the absence of factual evidence to the contrary.

Applicant next argues that the dependent claims fail to teach the specific precursors (pp.10-11).

The examiner agrees. However, this issue has been addressed above.

Applicant's arguments have been considered but are not deemed persuasive.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

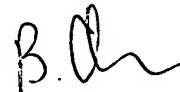
Art Unit: 1762

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (571) 272-1417. The examiner can normally be reached on 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bc
6/11/06



BRET CHEN
PRIMARY EXAMINER